FOUNDATIONS OF ANIMATION
Course Code: 5350

COURSE DESCRIPTION: This course prepares students to use artistic and technological foundations to create animations. The basic principles of digital animation are reviewed, including character development and story conception through production. Students learn the technical language used in the animation industry and basic animation methods. They will also learn techniques about various ways to plan, create, and prepare for animation in pre-production, production and post-production.

OBJECTIVE: Given the necessary equipment, supplies, and facilities, the student will complete all of the following core standards successfully.

COURSE CREDIT: One Carnegie unit

PREREQUISITE: Image Editing 1, Digital Multimedia, or Fundamentals of Web Design and Development

RECOMMENDED GRADE LEVELS: 10-12

COMPUTER REQUIREMENT: One computer per student; Internet access

RECOMMENDED SOFTWARE: Adobe® Flash

RESOURCES: www.mysctextbooks.com

INDUSTRY CREDENTIALS/CERTIFICATIONS AVAILABLE:

Adobe Certified Associate (ACA) Rich Media Communication Using Adobe Flash

A. SAFETY

1. Review school safety policies and procedures.
2. Review classroom safety rules and procedures.
3. Review safety procedures for using equipment in the classroom.
4. Identify major causes of work-related accidents in office environments.
5. Demonstrate safety skills in an office/work environment.

B. STUDENT ORGANIZATIONS

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.
3. Explain the benefits and responsibilities of being a member of a CTSO.

4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

C. TECHNOLOGY KNOWLEDGE

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS

1. Demonstrate punctuality.
2. Demonstrate self-representation.
3. Demonstrate work ethic.
4. Demonstrate respect.
5. Demonstrate time management.
6. Demonstrate integrity.
7. Demonstrate leadership.
8. Demonstrate teamwork and collaboration.
9. Demonstrate conflict resolution.
10. Demonstrate perseverance.
11. Demonstrate commitment.
12. Demonstrate a healthy view of competition.
13. Demonstrate a global perspective.
14. Demonstrate health and fitness.
15. Demonstrate self-direction.
16. Demonstrate lifelong learning.

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E. PROFESSIONAL KNOWLEDGE

1. Demonstrate effective speaking and listening skills.
2. Demonstrate effective reading and writing skills.
3. Demonstrate mathematical reasoning.
4. Demonstrate job-specific mathematics skills.
5. Demonstrate critical-thinking and problem-solving skills.
6. Demonstrate creativity and resourcefulness.
7. Demonstrate an understanding of business ethics.
8. Demonstrate confidentiality.
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.
10. Demonstrate diversity awareness.
11. Demonstrate job acquisition and advancement skills.
12. Demonstrate task management skills.
13. Demonstrate customer-service skills.

F. PURPOSES AND USES OF ANIMATION

1. Explore the history of animation.
2. Research careers in animation.
3. Describe trends in animation.
4. Explain various types of animation (i.e., traditional, stop motion, computer-generated imagery [CGI], and experimental).

G. DESIGN THEORY AND FUNDAMENTALS

1. Identify and apply the Elements of Design and Principles of Design.
2. Apply the 12 Basic Principles of Animation to animated sequences.
3. Describe and apply camera shots, angles, movements, Point of View, and composition for desired results.
4. Summarize and implement the general production process.
5. Identify and organize library assets, symbols, and instances.
6. Demonstrate proper file and directory naming conventions.

H. PRE-PRODUCTION: CONCEPT AND DESIGN

1. Practice brainstorming and ideation to develop a concept.
2. Conduct visual research to provide reference for a project.
3. Identify the purpose, audience, and audience needs for interactive media content.
4. Incorporate cultural sensitivity and diversity awareness into the design process.
5. Identify and explain elements of an effective pitch.
6. Effectively pitch to an audience.

I. PRE-PRODUCTION: STORYTELLING AND STORYBOARDING

1. Incorporate writing strategies and activities as individuals and groups to develop ideas in the story process.
2. Write visually descriptive stories with effective dialogue.
3. Create a character and develop character traits to give character purpose.
4. Develop a plan to create a background that helps tell a story.
5. Identify how the background interacts with characters.
6. Order and connect ideas into a coherent narrative or sequence in a script that demonstrates continuity.
7. Create a series of stick figures in a variety of poses, actions, and sequences.
8. Visually communicate concepts/ideas utilizing a storyboard.
9. Revise and refine storyboards based on feedback.

J. PRODUCTION

1. Identify and utilize elements of the animation software interface (Tools, Property inspector, Timeline, document properties, guides and rulers, and Motion Editor).
2. Create, import, modify, and manipulate objects, graphics, and text using a variety of tools and techniques.
3. Create and edit symbols and instances.
4. Apply various animation techniques (i.e., pose-to-pose, straight ahead).
5. Create and modify key frames and key poses.
6. Change an object's state or position over time.
7. Establish an object's relative speed.
8. Demonstrate an object following a path.
9. Simulate a naturally occurring or mechanical cycle (i.e., walking).
10. Create masks.
11. Add simple controls utilizing industry scripting language (e.g., ActionScript 3).
12. Manipulate and apply audio to an animation project.
13. Add and export video.

K. PRODUCTION: INTERACTIVITY

1. Identify best practices for designing interactive media content for desktop and mobile browsers, applications, games, and HD video.
2. Understand options for producing accessible and readable interactive media content.
3. Make interactive media content development decisions based on your analysis and interpretation of design specifications.
4. Identify interactive media content that is relevant to the purpose of the media in which it will be used (websites, mobile devices, etc.).
5. Organize an interactive media design document.
6. Make an interactive animation accessible.

L. POST-PRODUCTION

1. Compare and contrast animation file types.
2. Identify best practices for managing the file size of a published Flash or HTML document.
3. Select appropriate distribution format.
4. Publish and export animations.
5. Identify rendering types and purposes.
6. Apply appropriate rendering settings for a project (render a sequence of frames, render to layers).
7. Conduct basic technical tests and usability tests.

M. PORTFOLIO

1. Develop, maintain, and update portfolios and demo reels.
2. Prepare and deliver a visual presentation utilizing appropriate industry terminology.
3. Understand the elements of the critique process, including a respect for peer work and the ability to give and receive dispassionate criticism.
4. Conduct peer and self-evaluations using rubrics.